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RESOURCES FOR EBM

Definitions of EBM

- EBM is “the conscientious, explicit, and judicious use of **current best evidence** in making decisions about the care of individual patients” -- (Sackett, Rosenberg, and Gray, 1996)
- “Evidence-based medicine is the use of **mathematical estimates** of the risk of benefit and harm, derived from high-quality research on population samples, to inform clinical decision making in the diagnosis, investigation or management of individual patients.” — (Greenhalgh, 2006)
- “EBM encourages a healthy skepticism of every practice in medicine and promotes a culture of inquiry.” -- (Sloane, P.D., Slatt, L.M., Ebell, M.H., Jacques, L.B., Smith, M.A. (2008). Essentials of Family Medicine (5th ed.). Philadelphia : Wolters, pp. 40).

Three interacting realms of EBM

Best available clinical evidence

The point at which
effecting Doctor-Patient
communication and
planning is informed by the
best evidence

Patient needs,
desires, resources

Clinician experience

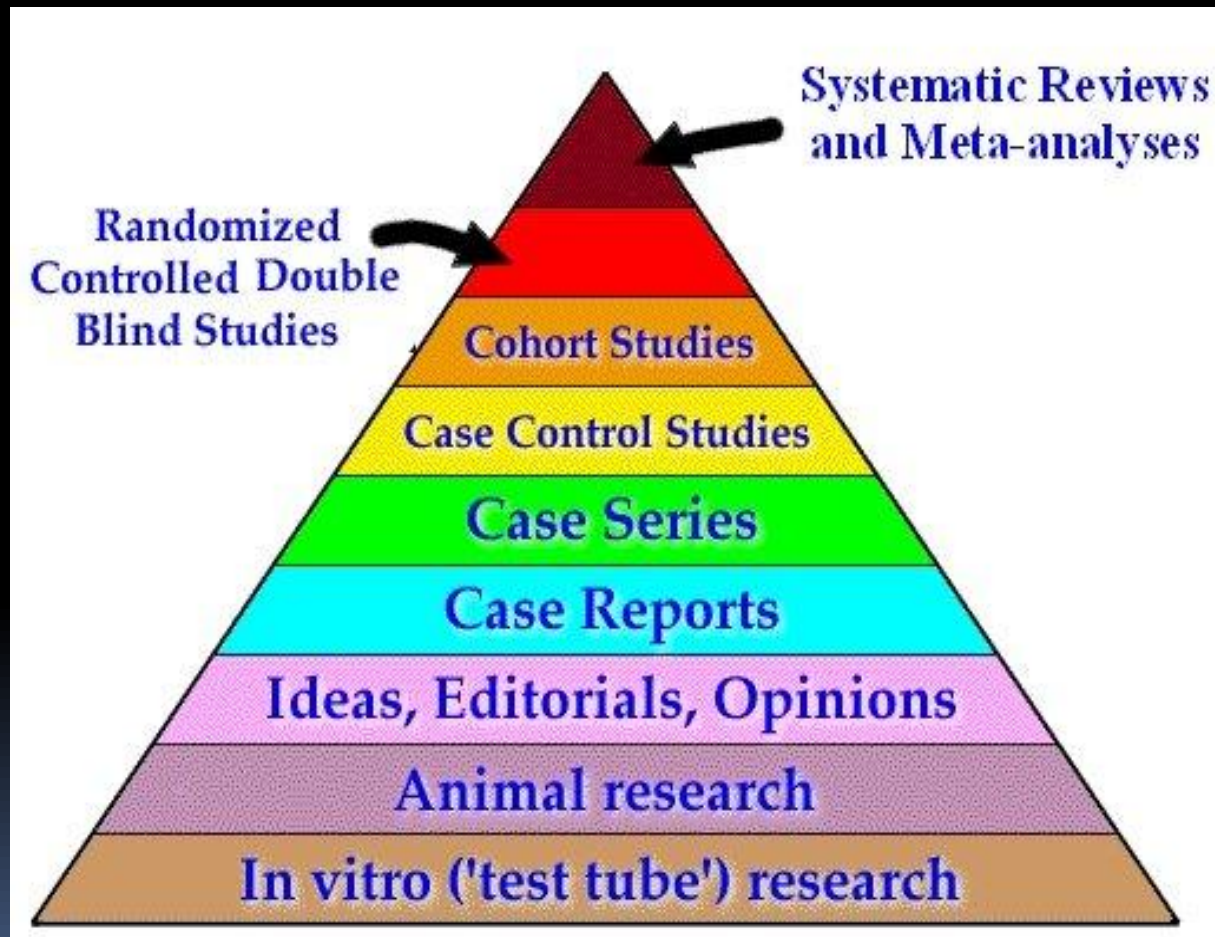
Patient-Doctor Dyad – Not really changed through time

Stages of EBM Process

1. Formulate search
2. Perform search
3. Assess search results
 - relevance (does it apply to my patient?),
 - validity (are the findings of the articles true?)
4. Apply results
5. Reassess patient

You will see variations in the above depending on the author and the field in which they work

Evidence Pyramid



The best evidence also is the least available!!

PICO

- Assists formulation of the clinical question.
- Grown from the EBM movement of the last 15 years.
- Common **types of clinical questions**: therapy, diagnosis, prognosis, harm
- PICO works best for diagnosis and therapy, not as well for questions of prognosis and harm.

P	Population, Patient, or Problem
I	Intervention or Exposure
C	Comparison (optional)
O	Outcomes

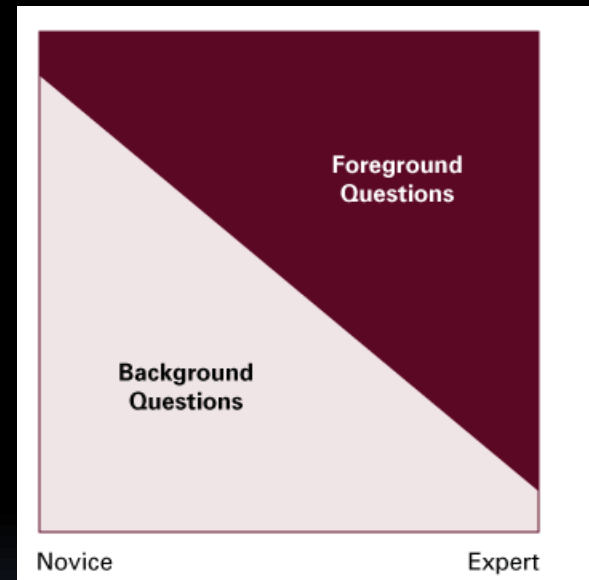
Examples of EBM questions by question type

Question type	Population	Intervention/ Exposure	Outcome	Best Feasible Study Design	Suitable Databases	Best Single MEDLINE Search Term for Appropriate Study Type
Diagnosis	In patients with lung cancer	What is the test performance of CT scan	For detecting mediastinal metastatic disease	Cross sectional analytical study	Best Evidence, UpToDate, MEDLINE	Sensitivity as a MeSH or key or title word
Treatment	In patients with HTN and DMII	Does a target BP of 80 compared to a DBP target of 90	Lower risk of stroke, MI, cardiovascular death, and all-cause mortality	RCT or systematic review of RCTs	Cochrane, Best Evidence, UpToDate, MEDLINE	Meta-analysis or Clinical trial or Randomized Control Trial as “publication types”
Prognosis	In young men with atypical chest pain	Sent home from the ER, in the next 72 hours	Suffer appreciable rates of unstable angina, heart failure or arrhythmia, MI or sudden death	Cohort study	Best Evidence, UpToDate, MEDLINE	Explode cohort studies as MeSH term
Harm	In men	Does vasectomy	Cause testicular cancer	Cohort study, population-based case-control trial	Best Evidence, UpToDate, MEDLINE	“Risk” as MeSH or as title or keyword

Adapted from: Guyatt, G., Rennie, D. (eds.). 2002. *User's guides to the medical literature*. NY: JAMA, p. 43.

Types of Clinical Questions

- “Background”
 - General information about a disorder
 - Book might be best
- “Foreground”
 - Specific knowledge about a disorder
 - Articles usually best
- i.e., the type of clinical question determines the best resource to use



1. Evidence based journals

Search

- Background Sources
 - ❖ text books
 - ❖ ACP Pier : rapid access to clinical information
 - ❖ Essential Evidence
 - ❖ Up-to-date
 - ❖ Clinical Evidence

Text book

- Evidence based symptom control in palliative care
- Decision making and outcomes in sports rehabilitation
- Decision making in oncology
- Evidence based diagnosis
- Stroke units: an evidence based approach
- Initial management injuries
- Evidence based physical diagnosis
- Evidence based pediatrics
- Family practice sourcebook
- Evidence based surgery

ACP Journal Club

- <http://www.acpjc.org>
- Monthly journal that analyzes the content of over 130 clinical journals and summarizes those articles found to have scientific merit and relevance to medical practice.
- ACP Journal Club plus
- Abstract ; free

ACP Journal Club



ACP JOURNAL CLUB

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Review: Atypical antineoplastic drugs increase risk for death in

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ACP Journal Club - Search Results

Search for:

Phrases must be in "quotes"

Article type:

☐ Don't use synonyms

[Search Help](#)

Found 14 matches. Showing 1 - 10.

1. 2003 - Low-intensity warfarin therapy prevented recurrent venous thromboembolism

British Medical Journals

- Evidence-based medicine journals

<http://ebm.bmj.com>

- Evidence-based mental health

<http://ebmh.bmjournals.com>

- BMJ series

<http://resources.bmj.com/bmj/topics/other-series>

Abstract; free

Other EBM journals

- Medical decision making :
international journal of Society

<http://mdm.sagepub.com>

Gastroenterology,



American Family Physician

- <http://www.aafp.org/afp>
- Twice monthly clinical review journal that contains evidence-based components, such as POEMs (patient-oriented evidence that matters), Cochrane for Clinicians and Point-of-Care Guides

Bandolier

- <http://www.medicin.ox.ac.uk/bandolier>
- Monthly journal that searches PubMed and the Cochrane Library for systematic reviews and meta-analyses published in the recent past and summarizes those that are both interesting and make sense.
- Free

The Journal of Family Practice

- <http://www.jfponline.org>
- Monthly clinical review journal that contains evidence-based components, such as its online archives of POEMs.

EBM databases

- The Cochrane Database of Systematic Reviews
- <http://www.cochrane.org/cochrane/revabstr/mainindex.htm>
- Arguably the most extensive collection of systematic reviews
- <http://www.thecochranelibrary.com>

Includes:


Full-text Systematic Reviews

Abstracts to further RCTs


Cochrane Database

- The York Database of Abstracts of Reviews of Effects (DARE)
- <http://www.york.ac.uk/inst/crd/darehp.htm>
- A collection of abstracts of systematic reviews.


Cochrane Review Group



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The Cochrane Library 2006, Issue 1

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Welcome to The Cochrane Library 2006, Issue 1

the best single source of reliable evidence about the effects of healthcare

The Cochrane Library is a unique source of reliable and up-to-date information on the effects of interventions in health care. Published on a quarterly basis, The Cochrane Library is designed to provide information and evidence to support decisions taken in health care and to inform those receiving care.

For details of recent improvements to The Cochrane Library, please read this issue [Release Notes](#). The Cochrane Library consists of a regularly updated collection of evidence-based medicine databases. The databases and the current numbers of records are:

Database	Total Records
The Cochrane Database of Systematic Reviews (Cochrane Reviews) *	4200
Database of Abstracts of Reviews of Effects (DARE) †	5859

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There are 33 results out of 4200 records for: "antiplatelet anticoagulation stroke in All Fields in The Cochrane Database of Systematic Reviews"

View: 1-25 | [26-33](#)

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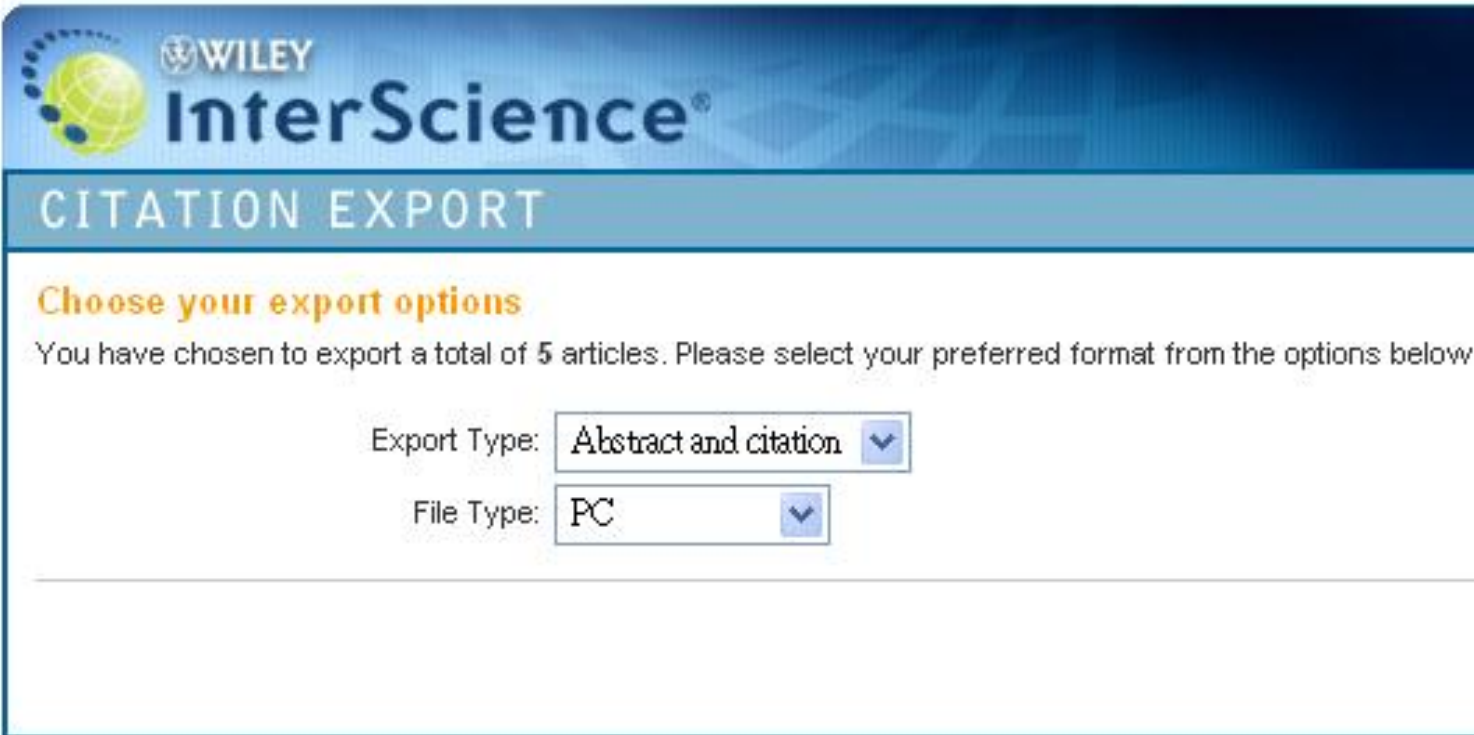
Record InformationRestrict to: [Reviews](#) | [Protocols](#) Sort by: []

☐ **Oral anticoagulants versus antiplatelet therapy for preventing further vascular events after transient ischaemic attack of arterial origin**
A Algra, ELLM De Schryver, J van Gijn, LJ Kappelle, PJ Koudstaal
Year: 2001
[Record](#) 

☐ **Anticoagulants for preventing recurrence following presumed non-cardioembolic ischaemic stroke or transient ischaemic attack**
P Sandercock, O Mielke, M Liu, C Counsell
Year: 2003
[Record](#) 

☐ **Antiplatelet agents versus control or anticoagulation for heart failure in sinus rhythm**

Cochrane Library



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Database

- ACP Medicine

<http://www.acpmedicine.com>

Guideline in primary care

1. Current
2. Authoritative
3. Comprehensive
4. Fast

Not free, subscription

CRD

- Center For Reviews And Dissemination (CRD)

<http://www.york.ac.uk/inst/crd>

Policy makers in health research

UpToDate

- Quickly, easily, right at point of care
- 8500 topics
- www.uptodate.com
- Updated every 4 months

DynaMed

- <http://www.dynamicmedical.com>
- A database of summaries of the evidence drawn from sources such as Clinical Evidence and the Cochrane Library
- 3200 topics (health & family medicine-Primary Care)
- Subscription
- Daily updated

EVIDENCE SUMMARIES

- Clinical Evidence
<http://www.clinicalevidence.com>
- A compendium of systematic reviews, gathered from Cochrane, MEDLINE and other sources, updated and expanded every six months.

BestBETS , EBM on-call

- <http://www.bestbets.org>
- <http://www.eboncall.org>
- ~ Free

Search Engine

- TRIP Database (Turning Research Into Practice)
- <http://www.tripdatabase.com>
- A search engine that gathers evidence-based clinical information from MEDLINE, DARE, the National Guideline Clearinghouse and many other evidence-based Web sites.
- Free

SUMSearch

- <http://sumsearch.uthscsa.edu/>
- A search engine that gathers evidence-based clinical information from MEDLINE, DARE and the National Guideline Clearinghouse.
- Free

Clinical EBM Search Engine

- <http://www.ahsl.arizona.edu/ebmsearch/index.cfm>
- PICO
- ACP, DARE, PUBMED, ...
- Therapy, diagnose, prognosis, etiology

Essential Evidence Plus

- Alerting tool : Email, Daily....
- <http://www.Essentialevidenceplus.com>
- Continuous Medical Education

E-MEDICINE

- [http:// emedicine.medscape.com](http://emedicine.medscape.com)
- 6800 studies
- WEBMD

CLINICAL GUIDELINES

- Institute for Clinical Systems Improvement (ICSI)
- <http://www.icsi.org/knowledge/>
- Guidelines for preventive services and disease management developed by ICSI, an independent, nonprofit collaboration of health care organizations, including the Mayo Clinic, Rochester, Minn

Guideline

National Clearing House

- www.GUIDELINE.gov
- www.NGC.org
- Always search for published guidelines
- A guideline is any document that aims to streamline particular processes according to a set routine

Cont.

- National Guideline Clearinghouse
- <http://www.guidelines.gov>
- Comprehensive database of evidence-based clinical practice guidelines

Guideline

National Guideline Clearinghouse
www.guideline.gov

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Your search criteria:

Keyword: *antiplatelet anticoagulation stroke*

Your search found 32 related guidelines, which are listed below by relevance. Use the "Limit Search" button to sort by publication date.

To view a guideline summary, click on a title below.

Items 1 to 20

Title
<input type="checkbox"/> Antithrombotic and thrombolytic therapy for ischemic stroke: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. American College of Chest Physicians - Medical Specialty Society. 2001 Jan (revised 2004 Sep). 28 pages. NGC:003882
Other Guidelines from this Developer
<input type="checkbox"/> ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee to revise the 1999 guidelines for the Management of Acute Myocardial Infarction). American College of Cardiology Foundation - Medical Specialty Society American Heart Association - Professional Association. 1996 Nov 1 (revised 2004 Jul). 211 pages. NGC:003734

Cont,

- U.S. Preventive Services Task Force (USPSTF) Recommendations
- <http://www.ahrq.gov/clinic/uspstfix.htm>
- Recommendations for clinical preventive services based on systematic reviews by the U.S. Preventive Services Task Force

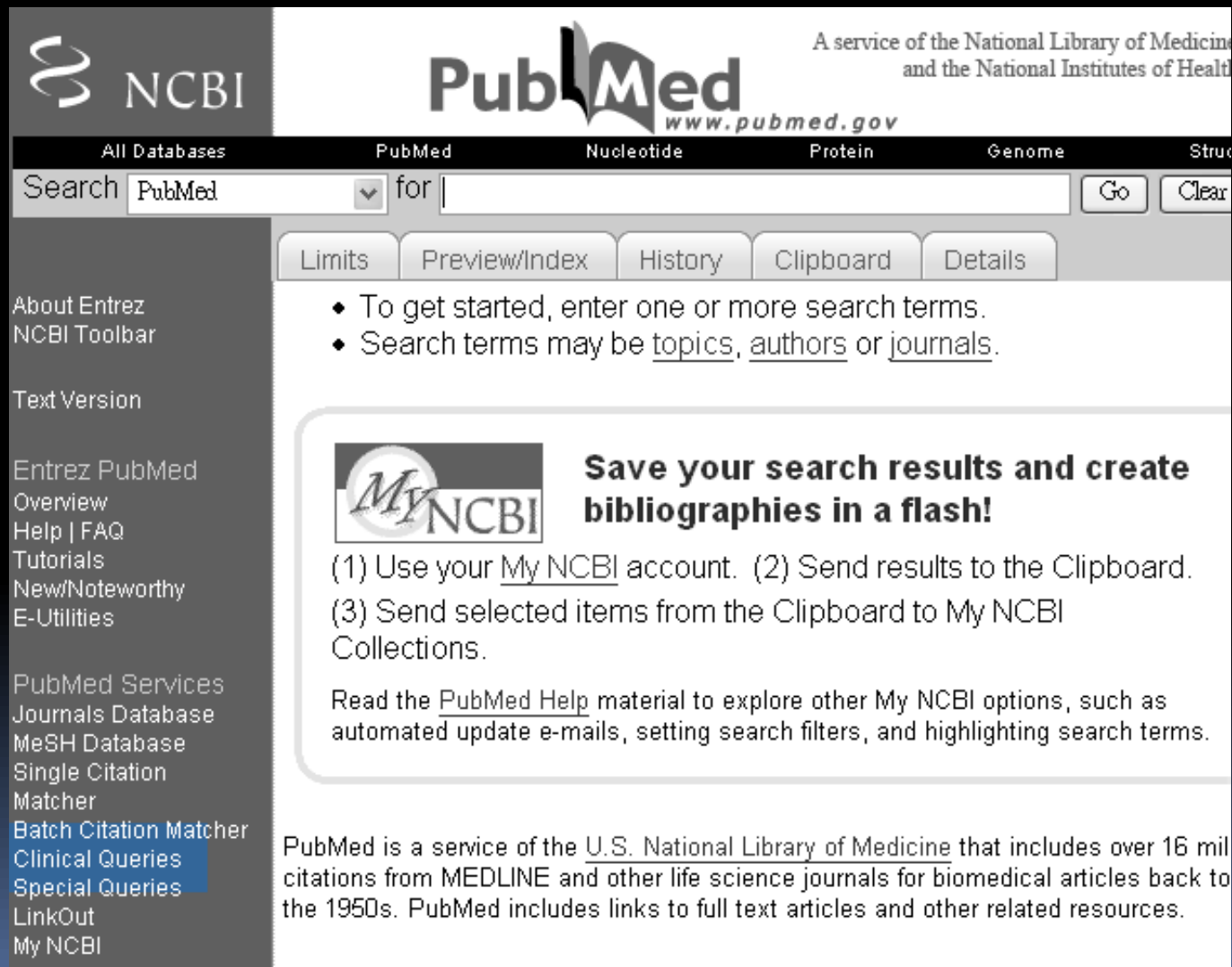
EBM Specific Resources

- Ovid EBM Reviews
 - Cochrane Database of Systematic Reviews
 - DARE (Database of Abstracts of Reviews of Effects)
 - ACP Journal Club
 - Clinical Evidence (BMJ product)
 - Guideline.gov (US government -- free)
 - TRIP (Turning Research Into Practice)
 - SUMSearch (Quirky, will not look at today)
-

What are these various sources good for?

- Quick clinical information - variably evidence-based
 - UpToDate, ACP Pier, Essential Evidence
- Quick EBM “textbook” – evidence-based but limited number of topics
 - Clinical Evidence
- EBM Database – more time consuming but more extensive resources searched
 - Cochrane DSR, ACP-JC, DARE
- MEDLINE – most time consuming, huge resource, many different publication types, can filter results to emphasize EBM. See handout for filtering information.
- Clinical Guidelines – guidelines draw conclusions from primary literature to advise doctors how to behave
 - Guideline.gov

APP: Pubmed Search



The screenshot shows the PubMed website interface. At the top, the NCBI logo is on the left, and the PubMed logo with the URL www.pubmed.gov is in the center. To the right of the PubMed logo, it says "A service of the National Library of Medicine and the National Institutes of Health". Below the logo, there are navigation tabs: "All Databases", "PubMed", "Nucleotide", "Protein", "Genome", and "Structure". The "PubMed" tab is selected. Below the tabs, there is a search bar with the text "Search PubMed" and a dropdown menu. To the right of the search bar are "Go" and "Clear" buttons. Below the search bar, there are buttons for "Limits", "Preview/Index", "History", "Clipboard", and "Details". On the left side, there is a sidebar with various links: "About Entrez", "NCBI Toolbar", "Text Version", "Entrez PubMed", "Overview", "Help | FAQ", "Tutorials", "New/Noteworthy", "E-Utilities", "PubMed Services", "Journals Database", "MeSH Database", "Single Citation", "Matcher", "Batch Citation Matcher", "Clinical Queries", "Special Queries", "LinkOut", and "My NCBI". The "Clinical Queries" link is highlighted. In the main content area, there is a section titled "Save your search results and create bibliographies in a flash!" with a "My NCBI" logo. Below this title, there are three numbered steps: (1) Use your [My NCBI](#) account. (2) Send results to the Clipboard. (3) Send selected items from the Clipboard to My NCBI Collections. Below these steps, there is a paragraph: "Read the [PubMed Help](#) material to explore other My NCBI options, such as automated update e-mails, setting search filters, and highlighting search terms." At the bottom of the main content area, there is a paragraph: "PubMed is a service of the [U.S. National Library of Medicine](#) that includes over 16 million citations from MEDLINE and other life science journals for biomedical articles back to the 1950s. PubMed includes links to full text articles and other related resources."

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PubMed
www.pubmed.gov

A service of the National Library of Medicine
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This page provides the following specialized PubMed searches for clinicians:

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- ◆ [Find Systematic Reviews](#)
- ◆ [Medical Genetics Searches](#)

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Results of searches on these pages are limited to specific clinical research areas. For complete results, search PubMed directly.

Search by Clinical Study Category

This search finds citations that correspond to a specific clinical study category. The search can be broad and sensitive or narrow and specific. The search filters are based on the work of [Hackett](#). See the [filter table](#) for details.

Search

Category	Scope
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<input type="radio"/> diagnosis	<input type="radio"/> broad, sensitive search
<input checked="" type="radio"/> therapy	
<input type="radio"/> prognosis	
<input type="radio"/> clinical prediction guides	

Find Systematic Reviews

The End

Any question?
soveisi@razi.tums.ac.ir

Have good time